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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.          | CONFIRMATION NO. |
|---|-------------|----------------------|------------------------------|------------------|
| 10/700,381  | 11/04/2003  | David J. Hunniford   | D0540-700410                 | 5795             |
| 37462   | 7590        | 11/04/2005           | EXAMINER<br>BARRY, CHESTER T |                  |
| LOWRIE, LANDO & ANASTASI<br>RIVERFRONT OFFICE<br>ONE MAIN STREET, ELEVENTH FLOOR<br>CAMBRIDGE, MA 02142 |             |                      | ART UNIT<br>1724             | PAPER NUMBER     |

DATE MAILED: 11/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/700,381

Applicant(s)

HUNNIFORD ET AL.

Examiner

Chester T. Barry

Art Unit

1724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 22-44 is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-21 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 07 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 7/12/04 7/30/04 8/26/04

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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Objection is made to claims 1 – 44 because each instance of “nitrate containing compound” should be replaced by “nitrate-containing compound.”

Claims 7 – 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 7 states, “wherein the nitrate containing compound includes anthraquinone.” Anthraquinone does not include a nitrate group, so it is unclear which anthraquinone compound contains a nitrate group. The specification refers to BIOXIDE-AQ as “an odor control chemical” containing calcium nitrate with anthraquinone. That “chemical” appears to be a chemical composition comprising calcium nitrate and anthraquinone. It does not appear to be a nitrate-containing “compound” comprising anthraquinone. A compound is a molecule. A composition of matter comprises one or more different molecules.

Claims 7 – 8 are rejected, and the specification is objected to, under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The specification fails to describe an anthraquinone compound containing a nitrate group, as required by claim 7. Accordingly, the specification fails to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 1, 5, 12, 15, 20 are rejected under 35 U.S.C. 102(b) as being anticipated by USP 5480550 to Sublette.

USP 5480550 to Sublette describes a method for treating a wastewater stream (reactor 14 receiving wastewater 24) (col 11 line 53, hereinafter "11/53") consisting essentially of acts of: (a) adding, at a first position in the wastewater stream, a nutrient stream 15 comprising a nitrate-containing compound (potassium nitrate) 3/50, 3/65 to the wastewater stream at reactor 14 in an amount sufficient to reduce a concentration of at least one of atmospheric hydrogen sulfide and dissolved sulfide downstream of the first position to a desired concentration; and (b) adding, at a second position in the wastewater stream, i.e., the point at which pH control system 18 is first in fluid connection with wastewater tank 14, a compound consisting essentially of an alkaline material 8/56, 9/1 to the wastewater stream to reduce the amount of the nitrate containing compound added in act (a).

Claims 1 – 2, 5, 12, 15, 20 are rejected under 35 U.S.C. 102(b) as being anticipated by USP 5480550 to Sublette.

USP 5480550 to Sublette describes a method for treating a wastewater stream (reactor 14 receiving wastewater 24) (col 11 line 53, hereinafter "11/53") consisting essentially of acts of: (a) adding, at a first position in the wastewater stream, i.e., the point at which pH control system 18 is first in fluid connection with wastewater reactor stream 14, a pH adjusting material comprising a nitrate-containing compound (nitrous acid,  $\text{HNO}_3$ ) 6/51 to the wastewater stream at reactor 14; and (b) adding, at a second

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position (same as the first position) in the wastewater stream, a compound consisting essentially of an alkaline material 8/56, e.g., 50% NaOH 9/1, to the wastewater stream to reduce the amount of the nitrate containing compound added in act (a). The amount of HNO<sub>3</sub> added appears to be sufficient to reduce a concentration of at least one of atmospheric hydrogen sulfide and dissolved sulfide downstream of the first position to a desired concentration. The amount of 50% NaOH added appears sufficient to reduce the amount of the nitrate-containing compound added in act (a).

Claim 3 is rejected under 35 U.S.C. 102(b) as being anticipated by USP 5480550 to Sublette.

USP 5480550 to Sublette describes a method for treating a wastewater stream (reactor 14 receiving wastewater 24) consisting essentially of acts of: (a) adding, at a first position in the wastewater stream, a nutrient stream 15 comprising a nitrate-containing compound (potassium nitrate) 3/50, 3/65 to the wastewater stream at reactor 14 in an amount sufficient to reduce a concentration of at least one of atmospheric hydrogen sulfide and dissolved sulfide downstream of the first position to a desired concentration; and (b) adding, at a second position in the wastewater stream, i.e., the same position as the first position (see claim 2), a compound consisting essentially of an alkaline material (sodium bicarbonate, 3/65).

Claims 1 – 3, 5 – 7, 9 - 21 are rejected under 35 U.S.C. 102(b) as being anticipated by USP 6309597 to Ballinger.

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Ballinger describes a method for treating a wastewater stream, consisting essentially of acts of:

(a) adding, at a first position in the wastewater stream, a nitrate-containing compound, e.g., calcium nitrate 7/60-62, to the wastewater stream in an amount sufficient to reduce a concentration of at least one of atmospheric hydrogen sulfide and dissolved sulfide downstream of the first position to a desired concentration; and

(b) adding, at a second position (same as first position) in the wastewater stream, a compound consisting essentially of an alkaline 6/60 material to the wastewater stream, i.e., alkaline anionic salts of polycyclic quinines and polycyclic hydroquinones (col 6 lines 1-5, 15, 7/15). See Ballinger's claim 1.

Per claims 9 – 11, see Ballinger at 8/55-63.

Objection is made to Claim 4 as dependent on a rejected base claim.

Claims 22 – 44 are allowed.

Prior art Ref. C – I are cited of interest.

Ref. J is cited of particular interest should applicants wish to consider copying

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claims therefrom.

Respectfully,

  
**CHESTERT. BARRY**  
**PRIMARY EXAMINER**

571-272-1152